

General Overview of Updates to the MTCA and SMS Rules

May 20, 2011

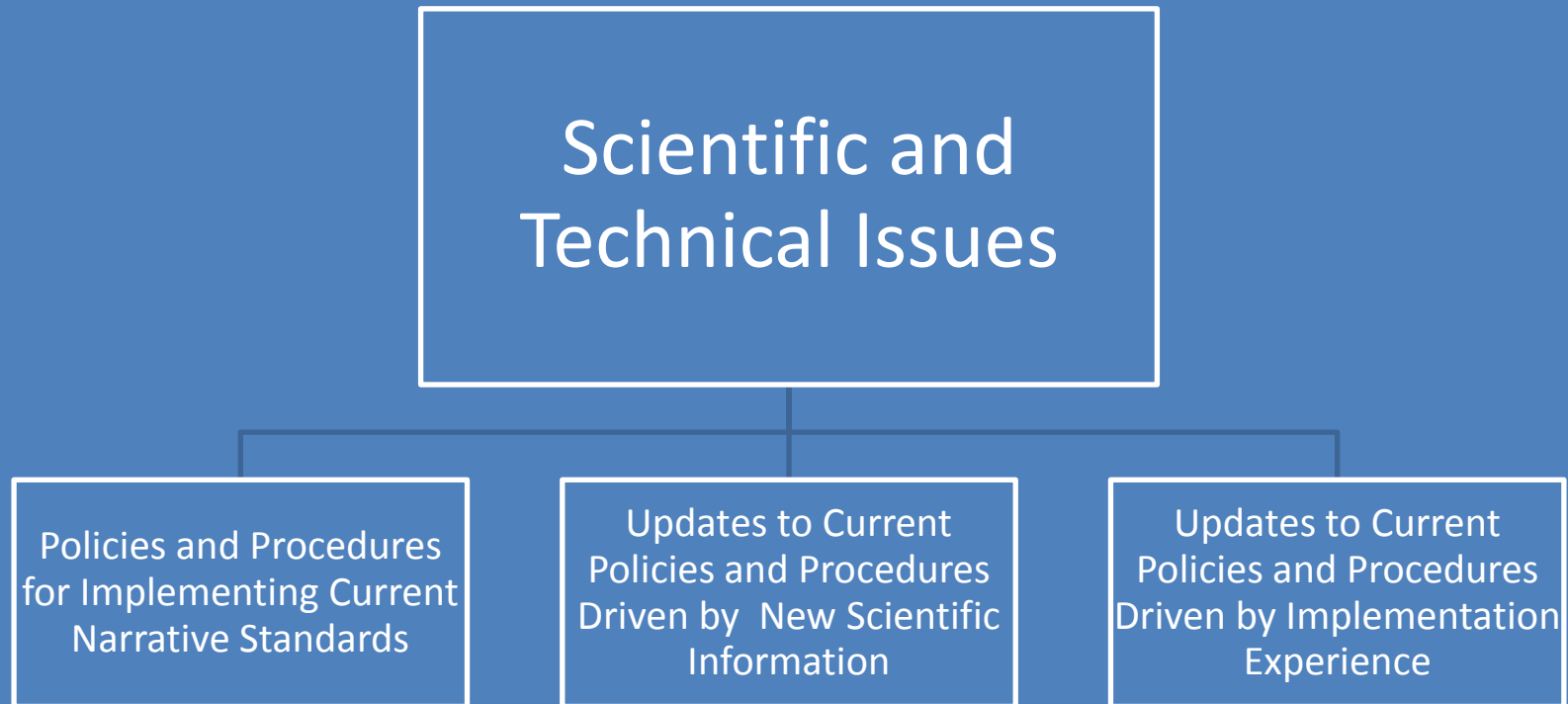
Goals for Today's Meeting

- Freshwater Sediment Criteria
 - Continue discussions from last meeting
 - Provide additional information based on questions from last meeting
- Toxicological Parameters
 - Obtain advice on draft approach for updating toxicological parameters under current MTCA rule provisions
- Update on Toxics Cleanup Program activities that may warrant future Science Panel review.

What we've done since the last meeting

- Completed SMS rule advisory group and international expert scientific peer reviews of freshwater standards.
- In November 2010, the Governor published Executive Order 10-06 establishing a one-year rule moratorium.
- In December, Ecology decided to:
 - Stop the MTCA rule revision process.
 - Continue the SMS rule revision process.
 - Evaluate whether it was feasible to adopt updated fish consumption rates in the SMS rule to support cleanup decisions.

Range of Scientific and Technical Issues Being Worked by TCP (to varying degrees)



New Policies and Procedures

Policies and Procedures for Implementing Current Narrative Standards

Sediment Cleanup Standards Based on Human Health Risk and Background

Freshwater Sediment Criteria

Source control requirements to protect sediment cleanup actions from bioaccumulatives

Updated Policies and Procedures

Updated Policies and
Procedures Driven by
New Scientific
Information

**Toxicological
Parameters**

**Terrestrial Ecological
Evaluation (TEE)**
- Screening Values
- Guidance

**Fish Consumption
Rates**

Updated Policies and Procedures

Updated Policies and
Procedures Driven by
Implementation
Experience

Guidance for
Petroleum
Contaminated Soils

Guidance for
Addressing Vapor
Intrusion Pathway

Evaluation of
Cumulative
Conservatism

Sediment Cleanup Standards for Freshwater Sediments

Sediment Cleanup Standards

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graph TD; A[Sediment Cleanup Standards] --> B[Criteria based on bioaccumulation risks (human health and ecological)]; A --> C[Criteria based on preventing exceedances of water quality standards]; A --> D[Biological and chemical criteria based on benthic toxicity];
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Criteria based on bioaccumulation risks (human health and ecological)

Criteria based on preventing exceedances of water quality standards

Biological and chemical criteria based on benthic toxicity

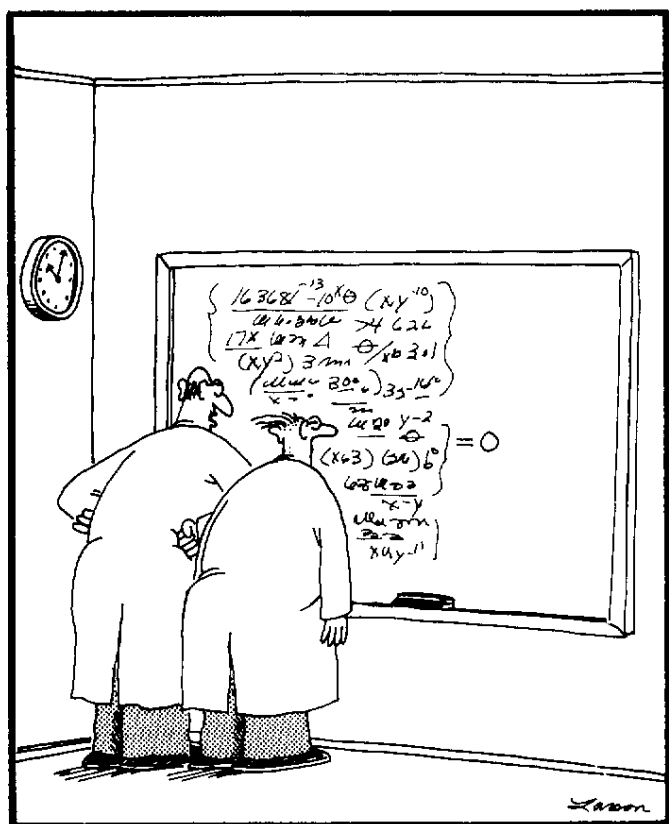
Use of Freshwater Sediment Criteria Within Current SMS Framework

- Chemical and biological criteria being developed for use in existing SMS risk management approach (vs. risk assessment).
- Two-tier SMS decision framework allows for some adverse effects to the benthic community.
 - Sediment Quality Standards (SQS) – no adverse effects
 - Cleanup Screening Level (CSL) – minor adverse effects
- Decision framework reflects a hierarchy of tools where biological criteria overrides chemistry.
- Annual review public meeting (SMARM) for updates.

Biological Criteria for Freshwater Sediments

- Use of appropriate bioassays and species to define benthic community health.
- Sensitivity of bioassays to predict chemical toxicity.
- Representativeness of bioassays for diverse freshwater environments.

Chemical Criteria for Freshwater Sediments



"No doubt about it, Ellington—we've mathematically expressed the purpose of the universe. Gad, how I love the thrill of scientific discovery!"

- **Scientific Issues:**
 - Type of bioassays and species to develop chemical criteria.
 - Robustness of the dataset.
 - Predictive ability of FPM and validation/reliability methods.
 - Adaptive management: Emerging bioassays and endpoints.
- **Policy Issues:**
 - Risk management framework - Allowance of some adverse effects.
 - Balancing False negatives and False positives.
 - Protectiveness of criteria.